

UNIT 2

Day 2

Roots and Radicals

Section 1.7

1)

$$\frac{\sqrt[3]{xy^2} \cdot \sqrt[3]{x^2y^4}}{\sqrt[3]{y}} = \frac{\sqrt[3]{x^3y^6}}{\sqrt[3]{y}} = \sqrt[3]{x^3y^5} = xy\sqrt[3]{y^2}$$

$$\frac{y^6}{y} = y^5$$

2)

$$\begin{aligned}
 & \frac{\sqrt[4]{16x^7y^2} \cdot \sqrt[4]{2x^2y^4}}{\sqrt[4]{4xy^3}} = \frac{\sqrt[4]{32x^9y^6}}{\sqrt[4]{4xy^3}} = \sqrt[4]{8x^8y^3} \\
 & = \sqrt[4]{2^3x^8y^3} \\
 & = x^2 \sqrt[4]{8y^3}
 \end{aligned}$$

3)

$$\begin{aligned} -\sqrt[8]{256x^{24}y^{12}} &= -\sqrt[8]{2^8 x^3 y^1} \\ &= -2x^3y \sqrt[8]{y^4} \end{aligned}$$

4)

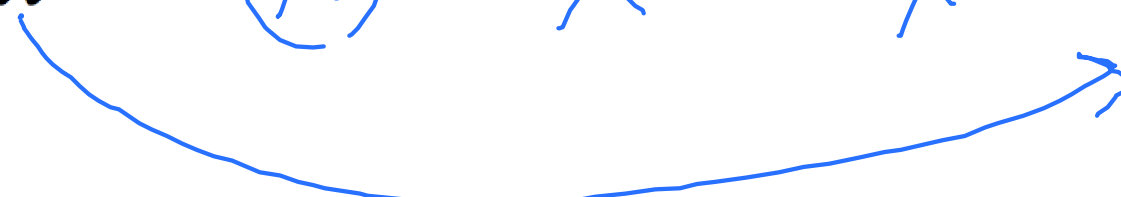
$$\sqrt{x^2 + y^2} = \sqrt{x^2 + y^2}$$

$$\frac{\sqrt{x^2 y^2}}{xy}$$

$$yuk \quad \cancel{x+y}$$

$$\cancel{\frac{\sqrt{x^2} + \sqrt{y^2}}{x+y}}$$

5)  $\sqrt[15]{x^3} = (x^3)^{1/5} = x^{3/5} = x^{1/5} = \sqrt[5]{x}$



$$\sqrt[15]{x^6} = \sqrt[5]{x^2}$$

6)

$$\sqrt[5]{\sqrt[3]{64}} = \left(2^6\right)^{\frac{1}{3}}^{\frac{1}{5}} = 2^{\frac{2}{5}} = \sqrt[5]{2^2} = \sqrt[5]{4}$$

7)

$$\sqrt[3]{\sqrt{5}} = \left(5^{\frac{1}{2}}\right)^{\frac{1}{3}} = 5^{\frac{1}{6}} = \sqrt[6]{5}$$

# HOMEWORK

Unit 2 Day 2